

# SPECIFICATION

## TITLE OF INVENTION

Instant Musician, Recording Artist and Composer

## CROSS-REFERENCE TO RELATED APPLICATIONS

Not Applicable

## STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

Not Applicable

## REFERENCE TO A MICROFICHE APPENDIX

Not Applicable

## BACKGROUND OF THE INVENTION

This invention pertains to the field of music making a breakthrough for computer or Internet users to instantly use their computer keyboard skills to become "instant musicians, recording artists and composers."

Previously, to play a particular instrument, the potential musician had to physically have that particular instrument. In addition, the potential musician had to be able to read sheet music and relate the music notes on that sheet music to the particular keys, strings or particular tone/sound creating physical activity associated with that particular instrument. Now, with this invention, all a potential musician has to do is: 1) select an instrument from a choice of many on a computer screen, and 2) type the letters appearing on the screen. No background in traditional music education is required to play any instrument the users selects. All the user is required to do is enter the keystrokes shown on the screen to play the particular instrument chosen. This invention eliminates the chore of learning how to play various musical instruments and the chore of learning how to read sheet music for those particular instruments. This powerful "instant musician" feature also speeds the learning process of learning to play musical instruments in a traditional sense because of the direct correlation between notes shown on the screen and the physical location of those notes on the particular instrument of choice.

If desired, the typical computer/Internet user may also become a recording artist for the musical material that is played by him or her. The user may simply elect to record the sounds of each instrument selected for a particular musical number. After the sounds of several instruments (and/or voices) have been stored in the computer's memory, they may be synchronously combined at

various selected levels by the user to create the unique sound of many instruments (and people) rendering the particular music piece or song. The sound spectrum of individual instruments may also be altered simply by bending the shape of the normal unaltered spectrum with the movement of a mouse. This invention allows a person with no particular music skills to record music numbers consisting of many different instruments as well as voices into a single music number which may be recorded (computer's drive(s), and/or CDs and/or other recording media) and replayed. With this invention, a single person may create the sounds of a single instrument or a whole orchestra complete with a vocal artist(s).

A third aspect of this invention is that of allowing a person without any musical knowledge (or computer skills) to compose musical numbers of their own. By simply clicking a mouse, or keyboard arrows, they can create sheet music instantly along with the associated sounds! This makes them an "instant composer" of music even thou they have never played a real instrument or can't even read conventional sheet music.

## BRIEF SUMMARY OF THE INVENTION

The "Instant Musician, Recording Artist and Composer" are just that — a novice computer or Internet user becomes instantly capable of playing a computerized equivalent of any musical instrument, instantly capable of recording singular or combined musical pieces played on the computer (including voice) as well as having the ability to compose music pieces by simply clicking a mouse! No prior music ability or background is required to be either a "computer musician," "computer recording artist," and/or a composer of music on a computer. The on-screen visual displays also teaches the conventional manner playing of any musical instrument without actually having physical access to the physical instrument of choice.

## BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

Drawing 1: This drawing shows the computer welcoming screen on a computer after the *Instant Musician, Recording Artist and Composer* software is load into the computer and started. The welcoming screen explains to the user that: a) he or she may play any instrument of their choice like a professional without any previous musical training or background, b) that he or she may play

several instruments (and voices, one at a time), and combine the individual efforts into a single “group recording,” and/or create his or her own musical masterpieces by just “clicking a mouse.” The welcoming screen on drawing 1 also shows the main menu bar depicting the manner in which the computer user may switch between the principal three different modes of operation and control various aspects of the operation in each mode (musician, recording artist or composer).

Drawing 2: This drawing shows the “Instrument/Song” computer screen where the computer user chooses the particular instrument he or she wishes to “play” as well as the particular “song” or musical number he or she wishes to play. Only some of the instruments available and songs available are depicted on the computer screen list boxes.

Drawing 3: Preferences of the user are shown on this computer screen drawing. These include: a) whether the user wishes song words displayed on the screen, b) whether a background “beat instrument” is desired, c) what choice of beat instrument is desired (if any), d) whether the user wishes the particular effort to be recorded as it is played and e) whether the user wishes the sheet music display on the screen (along with the associated computer keystrokes) should move as the effort progresses, or whether used portions of the music guide should simply be periodically replaced as sections are used.

Drawing 4: This drawing depicts the screen display used when playing a selected song with the instrument of choice. Key to this ease of use here is the highlighting of the keyboard key to type which “plays” the musical note also shaded. There is also a shaded word to “sing” if the user has elected to additionally have the song words depicted on the screen as well. A speed control is also present on the screen so the user may “play” his or her chosen instrument at typically normal playing speeds or faster or slower.

Drawing 5: The screen depicted on this drawing allows the user control over playing back music previously played — assuming the user had previously recorded one or more numbers. Normal music listening controls are provided, such as volume and balance, as well as a control over the speed that the recording is played back.

Drawing 6: This screen shown allows the computer user to become a recording artist by

mixing and blending previously recorded music numbers. These numbers to be blended may be individual instruments played or composite music numbers consisting of several instruments (and voice) previously recorded. The user may select automatic synchronization, if desired, that causes each of the selected previously recorded music piece selections to be automatically accurately blended relative to individual notes. The spectral content of each recording combined may be individually altered by modifying the baseline uniform spectrum with a touch of the mouse.

Drawing 7: This drawing shows the “instant composer” screen. It allows the user to compose music from scratch by simply clicking a mouse or other computer screen navigation device on the blank sheet music depicted. As a physical location on the sheet music is noted by a click of a mouse (or multiple clicks for designating what kind of notes — 1/4 note, ½ note, etc.) the appropriate note entered appears on the sheet music depiction and the particular note entered “sounds” from the computer’s speakers using the particular instrument last selected (default instrument is a piano). “Play Back” controls allow the music notes inputted to be played back so the “composer” may alter particular music notes previously entered, if desired. An option also exists for entering song words as the music piece is being composed, and controls are provided for noting the end of a composing effort as well as a control to allow saving the effort that has been composed at the particular time.

Drawing 8: This is the main functional block diagram drawing revealing how the system operates. The computer user first loads a CD-ROM disk into the computer that contains sample musical notes from a variety of musical instruments. The CD-ROM disk also contains the sheet music of a number of musical numbers along with the translation of the appropriate musical notes into keyboard keys. These keys include the normal alphabet keys plus control keys and function keys for easily added special effects. Sample musical sounds of additional instruments and additional sheet music to keyboard translations of more songs may be obtained from additional CR-ROM disks produced by the company with the patent rights, or downloaded from the company’s Internet site for an appropriate fee.

Along with the CD-ROM reading device, the functional block diagram shows the use of the computer’s speakers, keyboard and display for producing the sounds, accepting the user’s keyboard input and displaying the keys to “type” to produce the appropriate sounds, respectively. The functional block diagram is simplified with respect to the actual number of instruments that may be

played and simplified with respect to the system controls that have been illustrated on the screen displays.

Drawing 9: Drawing nine shows one method of generating the CD-ROM disks that contain sound samples from a range of instruments plus the keyboard keys to be depressed to produce the appropriate sounds corresponding to a particular music number selected.

The database of sound samples from various instruments is created by recording short sound samples from actual instruments for the range of their normal operation. Analysis of the sound spectrums of classical instruments by the company with the patent also allows the creation of new synthetic instrument sounds which we call cybersyn instruments.

A scanner is shown for the purpose of inputting sheet music into a computer along with software that automatically recognizes the notes of a particular piece. After the particular notes of a music number are inputted, they are transformed by an algorithm into computer keyboard keys.

Drawing 10: This drawing shows the major display drivers for the computer. Shown are the inputs from the user for controlling: song selection, instrument selection, display attributes, music display (and play) speed, beat presence and music number mixing controls.

Drawing 11: Shown on this drawing is the manner in which sounds are created by the user. When a particular key is depressed, it causes the computer's speakers to play the particular musical note corresponding to the transformed sheet music note as if an actual instrument of the type selected had been played. The sounds, of course, are different for each instrument selected.

## DETAILED DESCRIPTION OF THE INVENTION

This invention allows all ordinary computer users, including children, to become instant musicians using any musical instrument of their choice (all instruments) as well as recording their own musical numbers involving many different instruments (and voices), if desired, as well as the ability to compose new musical numbers of their own.

**Instant Musician:** This aspect of the invention includes algorithms that relate computer keyboard keys to stored music musical instrument sounds for the selected musical instrument, and

the keyboard keys to be “played” for a selected musical number are displayed on the computer screen. This allows ordinary computer users will no musical training what-so-ever to immediately start playing any musical piece using any selected instrument of their choice! After selecting the musical instrument and music piece, all the user has to do is type the keyboard letters appearing on the screen. Each different letter typed on the computer’s keyboard creates a sound on the computer’s speakers matching the exact sound of the note played for the particular instrument chosen. The data bank of recorded instrument sounds that the user can select from is extensive and can even contain newly synthesized instruments (cybersyn instruments). An optional background music beat may be chosen as well as a display of words corresponding to the musical number if the user wishes to sing along as well. While the process of typing the sheet music notes displayed via keyboard keys in itself is additionally a teaching aid for that of playing classical instruments, another user option is that of displaying the instrument of choice depicted on the screen showing the proper keys, strings, etc. to be manipulated to produce the particular highlighted note.

Instant Recording Artist: Musical numbers played by computer users with particular chosen instrument sounds may be recorded upon option for future play backs and then may be combined with previously recorded efforts on the same music number using other instruments as well as voice recordings. The combined musical pieces are kept in perfect sync using a digital timing bit stored with each number’s recorded note. This ability to digitally combine previously recorded sessions with controls on volume and balance creates the recording artist aspect of this invention since a single user with no musical experience what-so-ever can easily create complex recorded music numbers of his own making and cut CDs of these mixed instrument/voice recordings.

Instant Composer: This aspect of the invention allows any computer user to create his or her musical numbers by simply clicking a mouse on blank sheet displayed on the screen. Appropriate musical instrument sounds occur for the selected musical instrument at the time the sheet music is clicked so that the “composer” may instantly hear the results of his or her music creations as they are being composed. Both the sounds and the filled in sheet music are stored as creative efforts are in progress so that the “composer” will be able to immediately play back partially completed or fully completed works and modify any portion by overriding mouse clicks. Upon completion, newly stored composed numbers may have their corresponding sheet music printed out complete with

appropriate vocal responses (words or sounds to be sung or emitted by humans). Newly composed music numbers, after they are completed, may be played back by the user using any choice of musical instruments and then recorded as desired. In other words, newly composed music numbers by the computer user may be processed via the "recording artist" aspect of this invention to create multiple instrument/voice recordings of the new music work created.